

REMARKS

Claims 1-6 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Song et al. (US 2002/0130324), claims 1-6 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kim et al. (US 2003/0085404), and claims 15-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Jeong (US 6,081,308). Applicants respectfully traverse these rejections as being based upon prior art references that neither teach nor suggest the novel combination of features recited in independent claims 1 and 15, and hence dependent claims 2-6 and 16-20.

Initially, Applicants respectfully request that the Examiner address the arguments presented in the Amendment previously filed on September 14, 2004. As instructed by MPEP 707.07(f), “[w]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant’s arguments and answer the substance of it.” Accordingly, Applicants respectfully request that the next Office Action clearly address the arguments previously presented and represented below.

Independent claim 1 recites, in part, gate conductive lines each comprising “a first metal layer formed from a first metal,” and an alloy layer “formed from an alloy of the first metal and another metal is disposed at an upper portion of the first metal layer.” Similarly, independent claim 15 recites “wherein the gate electrode and the gate pad both include a first layer formed of a first metal and a second layer formed of a heat generated alloy of the first metal and a second metal disposed at an entire upper surface of the first layer directly contacting the transparent electrode.”

In contrast to Applicants' claimed invention, Song et al. merely teaches (paragraphs [0079] and [0111]) gate wires 22, 24, and 26 have a dual-layered structure including a lower layer made of a material having low resistivity, such as aluminum and aluminum-neodymium, and an upper layer made of a material having good contact with other materials, such as molybdenum-tungsten alloy. Thus, Applicants respectfully assert that Song et al. teaches using two distinctly different material layers having no commonly shared material(s).

In further contrast to independent claim 1, Kim et al. merely teaches (paragraph [0043]) gate wire parts 22, 24, 26, and 28 having a multiple-layered structure including one layer made of a material having a low resistivity and another layer made of a material having good contact properties with other materials. Specifically, Kim et al. teaches using a double layer structure including Cr/Al (or Al alloy) and Al/Mo as examples. Thus, Applicants respectfully assert that Kim et al. also teaches using two distinctly different material layers having no commonly shared material(s).

In contrast to independent claim 15, Jeong merely teaches (col. 8, lines 57-67 and col. 9, lines 55-65) that the gate electrode 210 and the gate pad 220 are formed of a first metal film 211 and 221 of Al or Al alloy and a second metal film 212 and 222 of MoW alloy. In addition, Jeong teaches that the gate line 200 is also formed of a dual film of an Al or Al alloy and MoW alloy film. Thus, Applicants respectfully assert that Jeong also teaches using two distinctly different material layers having no commonly shared material(s).

With regard to the alleged "product-by-process" recited by independent claims 1 and 15, Applicants respectfully assert that it is the resulting structure from the recited process which must be given patentable weight in the claim that recites features in a "product-by-process"

format. Accordingly, Applicants respectfully assert that both of independent claims 1 and 15 ultimately recite a first layer and an alloy layer on an upper portion of the first layer such that the alloy layer is formed from an alloy of the first layer. According to the structures recited by each of independent claims 1 and 15, the alloy layer and the first layer must share at least one common material, whereas Song et al., Kim et al., and Jeong all specifically teach using two distinctly different materials.

For at least the above reasons, Applicants respectfully submit that claims 1-6 and 15-20 are neither taught nor suggested by any of Song et al., Kim et al., and/or Jeong. Applicants respectfully assert that the rejections under 35 U.S.C. §§102(b) and 102(e) should be withdrawn because the above-discussed novel combinations of features are neither taught nor suggested by any of the applied references.

CONCLUSION

In view of the foregoing, Applicants respectfully requests reconsideration and timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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